

# NEW DISTRIBUTION RECORDS OF CHRYSOMELINAE (COLEOPTERA: CHRYSOMELIDAE)<sup>1</sup>

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## ABSTRACT

Information on the distribution of 31 species and subspecies of Chrysomelinae is provided. Most of these are from Wyoming but several entries not previously published from other areas are included.

During preparation of the section on Chrysomelinae for the North American Beetle Fauna Project, it became apparent that many specimens on hand represented records not included in the red version of the Checklist for Chrysomelidae (Wilcox 1975). This material is in the Entomology collection, University of Wyoming, and in the writer's personal collection. Multiple entries for more common species are included to show seasonal distribution, geographic range, and time of occurrence in different years. Most are previously unpublished Wyoming records, with a few new records from other states also included.

The collector name from specimen data, when available, is indicated by initials to save space and avoid repetition. The persons so indicated are as follows: GDB—G. D. Beierle; C. B.—C. Brown; RPB—R. P. Burton; CLC—C. L. Corkins; AGD—A. G. Davison; GRD—G. R. DeFoliart; DGD—D. G. Denning; WDF—W. D. Fronk; LDH—L. D. Hale; CPH—C. P. Hartley; DH—Dale Hawes; JRH—J. R. Howell; JGJ—J. G. Johnston; BSK—B. S. Kimball; WK—W. Knaus; JBK—J. B. Kring; RJJ—R. J. Lavigne; FAL—Fred A. Lawson; WDM—W. D. Marks; NLM—N. L. Marston; MM—Mark Mason; CEM—C. E. Melvin; RLP—R. L. Parker; AEP—A. E. Parshall; REP—Pfadt; KSP—K. S. Pike; CR—C. Ritter; ACS—A. C. Scoggan; KLS—K. L. Sherwin; ES—E. Spackman; JHT—J. H. Tully; DMT—D. M. Tyndall; TSW—T. Winburn; CBW—C. Barry Wingfield.

Many of the specimens reported here were identified by John A. Wilcox, a few by M. W. Sanderson, and the remainder by the writer, using keys by Wilcox (1972), Brown (1942, 1945, 1951, 1956, 1962), Blatchley (1910), and Linell (1896). Original descriptions and previously identified material were also consulted.

*Calligrapha amator* Brown. WYOMING: Park Co., 6-VII-67 FAL.

*Calligrapha californica coreopsivora* Brown. WYOMING: Goshen Co., 10-VI-49 DGD; Pine Bluffs, 30-V-55 REP. MICHIGAN: Big Stone Bay, 21-VII-24. NEW YORK (no other data).

*Calligrapha lunata* (Fab.). WYOMING: Crook Co., 14-VI-38.

*Calligrapha multipunctata* (Say). WYOMING: Laramie, 6-VIII-63 DH; 15-VII-63 RPB; Platte Co., 23-VIII-66 ACS, FAL. KANSAS: Manhattan, 17-IV-50 JBK.

*Calligrapha multipunctata bigsbyana* (Kirby). CANADA: Trinity Valley, BC 12-VI-29 JRH.

*Calligrapha philadelphica* (Linn.). CANADA: Trinity Valley, BC 12-VI-29 JRH.

*Calligrapha pnirsa* (Stal). CANADA: Montreal Isl., QU 16-IX---

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*Calligrapha sigmoidea* (LeConte). CANADA: Trinity Valley, BC-8-VIII-29 JRH.

*Calligrapha verrucosa* (Suffr.). WYOMING: Laramie, 19-V-1894; 20-V-1894; 15-VIII-63 GDB; Albany Co., 19-VIII-70 FAL (on *Salix*); 15-VIII-74 FAL (on *Salix*); 20-VI-75 FAL (on *Salix*); 10-VII-75 FAL (on *Salix*).

*Chrysolina auripennis* (Say). WYOMING: Guernsey, 19-V-63; 20-V-63.

*Chrysolina flavomarginata* (Say). WYOMING: Johnson Co., 22-VI-37; Niobrara Co., 8-VII-43 REP; Platte Co., 14-VII-50 REP; Wheatland, 24-VI-50; Guernsey, 12-VII-51; Laramie, 6-VI-61; Wheatland, 8-VII-62 RJL (on *Artemisia*); Platte Co., 30-VI-73 FAL (on "snakeweed"). NEW MEXICO: Cloudcroft, 6-VIII-1902.

*Chrysomela aeneicollis* (Scheaffer). WYOMING: Teton Co., 11-VIII-71 KSP.

*Chrysomela crotchii* Brown. NEW YORK (no other data).

*Chrysomela invicta* Brown. CANADA: Proctor, AB 24-V-28.

*Chrysomela knabi* Brown. WYOMING: Greybull, 2-VI-65 RJL; Powell, (no other data); Albany Co., 12-VIII-38; Wheatland, 25-VI-52 GRD; Fremont Co., 5-VII-68; Lincoln Co., 11-VIII-71 KSP. KANSAS: Wathena, 28-IV-27 RLP; Riley Co., 10-VI-54 FAL; Pottawatomie Co., 6-IV-59 FAL. COLORADO: Fort Collins, 29-IX-56.

*Chrysomela lineatopunctata* (Forst.). WYOMING: Evanston, 16-VI-59 WDF; Platte Co., 5-VII-67 NLM; Fremont Co., 5-VII-68 FAL; Big Horn Co., 5-VI-75 FAL, ES; Park Co., 5-VI-75 FAL, ES; Big Horn Co., 13-VII-75 JGJ.

*Chrysomela scripta* Fab. WYOMING: Chugwater, (no other data); Laramie, 17-VIII-55 WDF; 29-VII-74 FAL, ES; 25-VII-75 FAL, ES; Greybull, 2-VI-65 RJL; Albin, 13-VI-66 AEP; Pine Bluffs, 8-VII-67; Crook Co., 7-VII-70 AEP; Platte Co., 24-VI-72 FAL; 20-VI-75 FAL, ES; 18-VII-75 FAL, MM. COLORADO: Rocky Ford, 7-VIII-1899; Fort Collins, 2-X-56.

*Entomoscelis americana* Brown. WYOMING: Laramie, (no other data). COLORADO: Pingree Park, 10-VIII-.

*Gastrophysa cyanea* Melsh. WYOMING: Laramie, 18-VII-1892; Carbon Co., 1-VIII-25 CLC; Big Horn Co., 17-VI-71 FAL; Baggs, 8-VI-70 AEP; Carbon Co., 28-VII-75 FAL; Basin, 7-V-69 AEP.

*Gastrophysa formosa* (Say). WYOMING: Albin, 15-VI-69 AEP; Platte Co., 8-VI-66 FAL; Glendo 23-IV-57 REP; LaGrange, 13-V-69 AEP; Torrington, 20-VI-75 FAL, ES.

*Gastrophysa polygoni* (Linn.). WYOMING: Torrington, 4-VII-52; Glendo, VII-53 CB; Douglas, 19-VI-69 AEP; Torrington, 5-VI-74 FAL; 20-VI-75 FAL. MICHIGAN: "Ag. Coll. Mich." II-VI-1890. IOWA: Ames (no other data).

*Gonioctena americana* (Scheaffer). WYOMING: Albany Co., 4-VII-59 RJL; 16-VI-74 MM; 28-VI-74 FAL, MM; 20-VI-75 FAL.

*Gonioctena notmani* (Scheaffer). WYOMING: Albany Co., 26-VI-48 DGD; 4-VII-49 DGD.

*Labidomera clivicollis* (Kirby). WYOMING: Laramie, 10-X-35 CR. KANSAS: Medora, 20-VII-29 WK; Medora, 9-VIII-29 WK.

*Leptinotarsa decemlineata* (Say). WYOMING: Dwyer, 10-VII-24 CLC; Ralston, 5-VII-59 AGD; Goshen Co., 4-VIII-66 WDM; 15-VI-70 FAL; Torrington, 18-VII-75 FAL, MM; Shell Canyon 5-VI-69 AEP.

*Phaedon viridis* (Melsh.). WYOMING: Platte Co., 10-VI-75 FAL, ES. COLORADO: Fort Collins, 30-V-67 NLM.

*Phratora frosti remissa* Brown. WYOMING: Albany Co., 23-VI-70 FAL; 19-VII-70 FAL; 28-VI-74 FAL, MM; 23-VII-74 FAL.

*Timarcha cerdo* Stål. IDAHO: Fraser, -VIII- CPH.

*Zygogramma conjuncta* (Rogers) WYOMING: Laramie, 10-VI, 20-VII-1893; 20-VI-61 GDB; 27-VI-56 DMT; Big Horn, 3-VII-66, CBW; Torrington, 16-VII-69 AEP; Platte Co., 15-VIII-67 ACS. COLORADO: Fort Collins, 30-V-47 NLM.

*Zygogramma conjuncta pallida* (Bland) WYOMING: Goshen Co., 23-VII-44 REP; 18-VII-45 REP; 2-X-45 REP; Washakie Co., 10-VII-50 JHT; Worland, 23-VII-68 AEP; 7-V-69 AEP; 1-V-70 AEP; 4-VIII-70 AEP.

*Zygogramma exclamationis* (Fabr.) WYOMING: Platte Co., 15-VI-51 REP; 24-VI-72 FAL; Wheatland, 24-VII-51 REP; Glendo, 17-VII-59 REP; Lingle, 16-VII-63 REP (on sunflower); 20-VI-63 KLS; Pine Bluffs, 26-VI-68 AEP; Albin, 25-VI-68 AEP; Goshen Co., 15-VI-70 AEP; 30-VI-71 FAL; 16-V-44 REP; Converse Co., 16-VI-70 AEP; Wheatland, 18-VII-75 FAL, MM (on sunflower).

*Zygogramma heterothecae* Linell WYOMING: Albany Co., 27-VI-74 FAL. KANSAS: Rago (no other data).

*Zygogramma suturalis casta* (Rogers) WYOMING: Wheatland, 22-IX-56; Goshen Co., 5-VIII-70. COLORADO: -VII-BSK. KANSAS: Manhattan 28-VII-29 TSW; 24-VII-30 RLP.



## DISCUSSION

The data given above provide highly useful (sometimes critical) information for prospective collectors of Chrysomelidae in Wyoming. Since the entire state is subject to rigorous climatic conditions, the season for many species (in some already very short) may be advanced or delayed by as much as 3 weeks. Long season species, commonly occurring at lower altitudes in the state, usually can be taken even though such a shift may have occurred. Species living at higher altitudes or having only a brief active period, frequently are missed completely when a weather-induced modification of the season has taken place.

For example, a cottonwood leaf beetle, *Chrysomela scripta*, occurs from early June through July and into August at lower altitudes in eastern Wyoming. In Laramie, the same species appears only in mid-July and has a single generation. Another cottonwood leaf beetle, *Chrysomela lineatopunctata*, appears briefly for 1 generation in northwest Wyoming; all attempts to obtain a second generation failed. The latter would be missed by a collector taking the usual August tourist approach.

An aspen leaf beetle, *Gonioctena americana*, occurs at 8,200 ft in the Sherman Mountains east of Laramie. These beetles normally appear in mid-June, produce one generation, then disappear into the surface litter beneath the trees. This beetle would likewise be missed unless rather specific timing and location were observed.

The small dock beetle, *Gastrophysa cyanea*, emerges in late May or early June in eastern and northern Wyoming. At Laramie (7,250 ft.) it appears at the end of June. About 60 miles northwest, in the Medicine Bow National Forest, a colony of these beetles, along the Medicine Bow River at 8,500 ft., becomes active in mid-July. In all localities the beetles produce only 1 generation, with new adults out briefly on the host plants. New adults from all locations listed above have been caged in the laboratory at the University of Wyoming and fed fresh young host plant material; up to 4 additional generations have been produced in this manner. However, larvae reared thus in August and September and placed on naturally aged, outdoor grown host plant material, fed only briefly and died; adults on the same material quickly became inactive. Similar experiments with *C. lineatopunctata* and *G. americana* were total failures.

The range of several "northern" species is extended south through Wyoming and into northern Colorado. These beetles occur at higher elevation in the Rocky Mountains, apparently coming in from the northwest and moving to the south and southeast. These beetles, also, are easily missed because the season at higher elevations is short at best and may be curtailed even more by inclement weather.

It is hoped, therefore, that the prospective collector of Chrysomelidae in Wyoming will benefit from the above information, particularly if his time here is short. Because of the limited occurrence of many species, it is suggested that a visiting specialist consult the list for the desired species, select 1 or 2 localities for intensive collecting, and plan to be in the field at definite times.

## REFERENCES CITED

- BLATCHLEY, W. S. 1910. The Coleoptera of Indiana. Ind. Dept. Geol. and N. R. Bull. 1:1-1386.
- BROWN, W. J. 1942. The American species of *Phytodecta*. Can. Ent., 74:99-105.
- . 1945. Food plants and distribution of species of *Calligrapha* in Canada with descriptions of new species. Can. Ent., 77:117-133.
- . 1951. The American species of *Phratora* Chev. Can. Ent., 83:121-130.
- . 1956. The new world species of *Chrysomela* L. Can. Ent., 88 (Suppl. 3):1-54.
- . 1962. The American species of *Chrysolina* Mots. Can. Ent., 94: 58-74.
- LINELL, M. L. 1896. A short review of the Chrysomelas of North America. J. New York Ent. Soc., 4:195-200.
- WILCOX, J. A. 1972. A review of the North American chrysomeline leaf beetles. Univ. of State of New York, State Mus. and Sci. Service., Bul. 421:1-37.
- . 1975. Checklist of the Chrysomelidae of Canada, United States, Mexico, Central America, and the West Indies. Family No. 104. Biol. Res. Inst. of America, Inc., Latham, NY. 166 p.

